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Patent
Attorney Docket No.: 027557-064

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application:)	
)	
Johan NILSSON)	
)	
Serial No.: 09/684,985)	Group: 2685
)	
Filed: October 10, 2000)	Examiner: Pablo Tran
)	Conf No.: 2763
Title: RADIO TRANSCEIVER)	

BRIEF FOR APPELLANT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
Attn: Mail Stop Appeal Brief - Patents

Sir:

Further to the Notice of Appeal filed July 7, 2004, this Appeal Brief is submitted in Triplicate. This appeal is from the decision of the Examiner dated February 5, 2004, finally rejecting claims 1 - 6, 8 - 12, and 14. All claims pending in the application, namely claims 1 - 6, 8 - 12, and 14, are reproduced as an Appendix to this Brief.

The July 7, 2004 filing of the Notice of Appeal provided for a period for filing an Appeal Brief set to expire September 7, 2004. The Commissioner is hereby authorized to charge any appropriate fees that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800. This paper is submitted in triplicate.

I. Real Party in Interest

The entire interest in the present application, and the invention to which it is directed, is assigned to Telefonaktiebolaget LM Ericsson, a corporation duly organized under and pursuant to the laws of Sweden and having its principal place of business at S-126 25 Stockholm, Sweden; said assignment being recorded in the United States Patent and Trademark Office at Reel 011468, Frame 0956.

II. RELATED APPEALS AND INTERFERENCES

The Applicant's legal representative or assignee does not know of any other appeals or interferences which will directly affect or be directly affected by or have bearing on the Board's decision in this appeal.

III. STATUS OF THE CLAIMS

This application was originally filed with claims 1 - 18. Claims 7, 13, and 15 - 18 were canceled by Amendment filed November 20, 2003. Therefore, claims 1 - 6, 8 - 12, and 14 are currently pending in the application. Claims 1 - 6, 8 - 12, and 14 stand finally rejected under 35 USC §§ 103(a), 102(a). Accordingly, claims 1 - 6, 8 - 12, and 14 are the subject of the present appeal. A correct copy of all pending claims, comprised of the claims on appeal, is attached as an Appendix to this Brief.

IV. STATUS OF AMENDMENTS

A Response was filed May 4, 2004 in response to the February 5, 2004 final Office Action. No claim amendments were submitted with the May 4, 2004 Response, and an Advisory Action was mailed June 22, 2004 stating that the arguments presented in the May 4, 2004 Response do not place the application in condition for allowance.

V. SUMMARY OF THE INVENTION

Exemplary embodiments of the Applicant's invention are directed toward a radio transceiver and method for receiving radio signals, wherein the radio signal transmit power is controlled based on a quality estimator (page 2, lines 18 - 31; page 3, lines 20 - 22). The particular estimation algorithm utilized for the quality estimator is a function of the relative measured velocity of the mobile transceiver (page 2, lines 26 - 31; page 3, lines 30 - 33). In particular, the response speed of the estimation algorithm is controlled based on the velocity of the mobile transceiver (page 4, lines 9 - 17). In this manner, the transmit power level is controlled to be high enough to avoid data loss but not so high as to cause interference in excess of a threshold (page 3, lines 20 - 26).

VI. ISSUES

A. Whether claims 1 - 6, 8 - 12, and 14 are unpatentable under 35 USC §103(a)

as being obvious over U.S. Patent No. 5,963,870 to Chheda et al. in view of U.S. Patent No. 6,208,861 to Suzuki.

B. Whether claims 1 - 6, 8 - 12, and 14 are unpatentable under 35 USC §102(a) as being anticipated by published European Patent Application No. EP0847146 to Endo et al. in view of U.S. Patent No. 6,208,861 to Suzuki.

VII. GROUPING OF THE CLAIMS

For the purpose of appeal, claims 1 and 11 stand or fall together, claims 2 and 12 stand or fall together, claims 3 - 6 stand or fall together, claims 8 and 14 stand or fall together, and claims 9 and 10 stand or fall together.

VIII. ARGUMENT

A. Claims 1 - 6, 8 - 12, and 14 Are Not Properly Rejected Under 35 USC §103(a) As Being Obvious Over U.S. Patent No. 5,963,870 to Chheda et al. In View of U.S. Patent No. 6,208,861 to Suzuki.

1. The Office Action has not established a *prima facie* case of obviousness because the prior art of Chheda et al. and Suzuki, whether taken alone or in combination, fails to teach or suggest all of the limitations of claims 1 - 6, 8 - 12, 14.

a. Claims 1 and 11 are Patentable Over the Combination of Chheda et al. and Suzuki.

Claims 1 and 11 stand rejected under 35 USC § 103(a) as being unpatentable over Chheda et al. and Suzuki. Under a rejection based on 35 USC § 103(a), the Examiner bears the burden of establishing a *prima facie* case of obviousness based upon prior art. *In re Rouffet*, 47 USPQ2d 1453, 1455 (CAFC 1998); *In re Fritch*, 23 USPQ2d 1780, 1783-84 (CAFC 1992); MPEP § 2142. To establish a *prima facie* case of obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 USPQ 580, 582 (CCPA 1974); MPEP § 2143.03. In the absence of a proper *prima facie* case of obviousness, an applicant who complies with the other statutory requirements is entitled to a patent. *In re Rouffet* at 1455.

The combination of Chheda et al. and Suzuki fails to disclose or suggest all of the elements of claims 1 and 11. The Applicant's claimed invention is directed toward a radio transceiver and method for receiving radio signals, wherein the radio signal transmit power is controlled based on a signal quality estimator. The particular estimation algorithm utilized for the quality estimator is a function of the measured velocity of the mobile transceiver relative to the base station. In particular, and citing to the relevant parts of independent claim 1, the radio transceiver includes a quality estimator using an estimation algorithm having a response speed, wherein the response speed of the estimation algorithm is controlled in response to the measure of velocity of the transceiver. For example, as noted in the specification at page 4, lines 9 – 17, a fast SIR estimation algorithm can be utilized by the transceiver when the mobile station is moving at a low velocity so as to follow fast fading of the transmitted radio signal. Correspondingly, a slow SIR estimation algorithm can be utilized when the mobile station is moving at a high velocity.

Chheda et al. has been presented in the Office Action as the primary reference for allegedly disclosing the features recited in claims 1 and 11. Chheda et al. discloses a method for switching between IS-95 forward power control and fast forward power control in a mobile radio as means for controlling transmission power (Chheda et al. at abstract; Col. 1, lines 53 - 59; Col. 12, lines 14 - 34). At higher mobile radio speeds, Chheda et al. utilizes the IS-95 forward power control to more quickly adjust transmission power levels (Col. 12, lines 22 - 32). At lower mobile radio speeds, the slower fast forward link power control process is used to control transmission power levels (Col. 12, lines 32 - 34).

The Office Action admits that Chheda et al. fails to disclose an estimation algorithm having a response speed, the response speed being controlled in response to the measure of velocity of the transceiver. The Office Action introduces the Suzuki patent as allegedly teaching such a feature. The Applicant respectfully disagrees.

Suzuki discloses a method for monitoring a channel condition for a mobile terminal, wherein a moving radio terminal is switched from a first radio channel to a second radio channel when the channel condition of the second radio channel is better than that of the first radio channel (Suzuki at abstract; Col. 2, lines 42 - 48). The velocity of the mobile terminal is determined based on global positioning information (abstract; Col. 2, lines 15 - 19). The radio channels are monitored for the channel condition during an intermittent period of time, with the duration of the time period being a function of the velocity of the mobile terminal

(Col. 2, lines 39 - 42; Col. 4, lines 13 - 17). As the velocity of the mobile terminal is reduced, the intermittent period becomes longer; and, conversely, as the velocity of the mobile terminal increases, the intermittent monitoring period becomes shorter (Col. 2, lines 49 - 52; Col. 4, lines 31 - 56).

The Suzuki patent fails to disclose any estimation algorithm whatsoever, much less an estimation algorithm having a response speed that is a function of the velocity of the radio transceiver. Instead, the sole use of the calculated velocity of the mobile terminal of Suzuki is for determining the duration of an intermittent time period for monitoring the quality of adjacent radio channels (Suzuki at abstract; Col. 2, lines 39 - 52; Col. 4, lines 13 - 17). The Examiner has admitted as much in the reasons presented in the June 22, 2004 Advisory Action mailed in the present application, in which the Examiner admitted that "Suzuki disclose[s] a method wherein a period of time in which the radio channel quality is monitor[ed] is changed according to [the] movement velocity of a transceiver."

In summary, the Applicant respectfully submits that the Examiner has failed to establish a *prima facie* case of obviousness against claims 1 and 11. More specifically, the Examiner has not shown how or where the prior art teaches or suggests all the claimed limitations. As discussed above, even the combination of the references fails to teach all the features recited in claims 1 and 11. Accordingly, the Applicant respectfully requests the rejection of claims 1 and 11 be reversed.

b. Claims 2 and 12 are Patentable Over the Combination of Chheda et al. and Suzuki.

Claims 2 and 12 stand rejected under 35 USC § 103(a) as being unpatentable over Chheda et al. and Suzuki.

The combination of Chheda et al. and Suzuki fails to disclose or suggest all of the elements of claims 2 and 12. Claims 2 and 12 depend respectively from claims 1 and 11 and include all the features of these independent claims and are therefore patentable for at least the same reasons as those set forth with respect to these base claims. Furthermore, claims 2 and 12 are separately patentable because they define additional features which are not taught or suggested by either the Chheda et al. or the Suzuki patents. For example, claims 2 and 12 each specify that the estimated first measure of quality is the signal-to-interference ratio.

The Office Action cites to Chheda et al. at Col. 46 - 51; Col. 4, lines 33 - 39; and Col.

5, lines 8 - 23 as allegedly disclosing this feature. The Applicant respectfully disagrees and points out that nothing in the cited portions of Chheda et al. discloses a signal-to-interference ratio being used as a measure of quality of received radio signals. Instead, Chheda et al. discloses using an estimated value of E_s/N_0 , which is defined at Col. 2, lines 19 - 34 to be a ratio of symbol-energy-to-noise-density of the received signal, where N is the number of bits per symbol. If the value of the E_s/N_0 metric is too high, the mobile telephone instructs the base station to adjust its transmit power downward (Col. 4, lines 49 - 55). The Applicant additionally notes that the citation to Chheda et al. of Col. 46 - 51 is presumed to be Col. 3, lines 46 - 51.

In summary, the Applicant respectfully submits that the Examiner has failed to establish a *prima facie* case of obviousness against claims 2 and 12. More specifically, the Examiner has not shown how or where the prior art teaches or suggests all the claimed limitations. As discussed above, even the combination of the references fails to teach all the features recited in claims 2 and 12. Accordingly, the Applicant respectfully requests the rejection of claims 2 and 12 be reversed.

c. Claims 3 - 6 are Patentable Over the Combination of Chheda et al. and Suzuki.

Claims 3 - 6 stand rejected under 35 USC § 103(a) as being unpatentable over Chheda et al. and Suzuki.

The combination of Chheda et al. and Suzuki fails to disclose or suggest all of the elements of claims 3 - 6. Claims 3 - 6 depend claim 1 and include all the features of this independent claim and are therefore patentable for at least the same reasons as those set forth with respect to this base claims. Furthermore, claims 3 - 6 are separately patentable because they define additional features which are not taught or suggested by either the Chheda et al. or the Suzuki patents. For example, claims 5 and 6 respectively recite that the second measure of quality is a bit error rate or a frame error rate.

The Office Action again cites to Chheda et al. at Col. 46 - 51 (presumed to be Col. 3, lines 46 - 51); Col. 4, lines 33 - 39; and Col. 5, lines 8 - 23 as allegedly disclosing these features. The Applicant respectfully disagrees and asserts that the cited portions of Chheda et al. are completely silent regarding a bit error rate or a frame error rate, much less any teaching that such measures are utilized as a second measure of quality for a target value for a

signal-to-interference ratio threshold value, as recited in claim 4, from which claims 5 and 6 both depend.

In summary, the Applicant respectfully submits that the Examiner has failed to establish a *prima facie* case of obviousness against claims 3 - 6. More specifically, the Examiner has not shown how or where the prior art teaches or suggests all the claimed limitations. As discussed above, even the combination of the references fails to teach all the features recited in claims 3 - 6. Accordingly, the Applicant respectfully requests the rejection of claims 3 - 6 be reversed.

d. Claims 8 and 14 are Patentable Over the Combination of Chheda et al. and Suzuki.

Claims 8 and 14 stand rejected under 35 USC § 103(a) as being unpatentable over Chheda et al. and Suzuki.

The combination of Chheda et al. and Suzuki fails to disclose or suggest all of the elements of claims 8 and 14. Claims 8 and 14 depend respectively from claims 1 and 11 and include all the features of these independent claims and are therefore patentable for at least the same reasons as those set forth with respect to these base claims. Furthermore, claims 8 and 14 are separately patentable because they define additional features which are not taught or suggested by either the Chheda et al. or the Suzuki patents. For example, claims 8 and 14 each specify that response speed of the estimation algorithm is controlled such that a first higher response speed is used in the event of a low measure of velocity of the transceiver, and a second lower response speed is used in the event of a high measure of velocity of the transceiver. The Office Action cites to Chheda et al. at Fig. 1; abstract; Col. 3, line 46 - Col. 4, line 17; Col. 4, lines 33 - 47 and 52 - 67 and to Suzuki at its abstract as allegedly disclosing "a first higher response speed is used for a low measure speed of the transceiver and a second lower speed is used for a high measured velocity of the transceiver."

The Applicant respectfully asserts that the Office Action's reliance on this portion of the Chheda et al. disclosure is misplaced. Nothing in the cited portions of Chheda et al. discloses that an estimation algorithm is controlled based on a measure of the velocity of the transceiver. In fact, Chheda et al. is completely silent regarding the use of multiple estimation algorithms. Instead, the cited portions of Chheda et al. disclose that the power control apparatus of Chheda et al. estimates an energy to noise density ratio for received radio

signals and compares the estimated ratio against a target ratio and adjusts the base station's transmit power level up or down accordingly (Chhedat et al. at Col. 3, lines 46 - 47; Col. 4, lines 49 - 55; Fig. 1). Similarly, the Office Action's reliance on the abstract of Suzuki to teach the features of claim 8 is misplaced. The Suzuki abstract is silent regarding the response speed of an algorithm being controlled by the measure of velocity of the transceiver. Further, a complete reading of the Suzuki patent discloses no estimation algorithm at all, much less an estimation algorithm having a response speed controlled by the measure of velocity of the transceiver.

In summary, the Applicant respectfully submits that the Examiner has failed to establish a *prima facie* case of obviousness against claims 8 and 14. More specifically, the Examiner has not shown how or where the prior art teaches or suggests all the claimed limitations. As discussed above, even the combination of the references fails to teach all the features recited in claims 8 and 14. Accordingly, the Applicant respectfully requests the rejection of claims 8 and 14 be reversed.

e Claims 9 and 10 are Patentable Over the Combination of
Chheda et al. and Suzuki.

Claims 9 and 10 stand rejected under 35 USC § 103(a) as being unpatentable over Chheda et al. and Suzuki.

The combination of Chheda et al. and Suzuki fails to disclose or suggest all of the elements of claims 9 and 10. Claims 9 and 10 depend claim 1 and include all the features of this independent claim and are therefore patentable for at least the same reasons as those set forth with respect to this base claims. Furthermore, claims 9 and 10 are separately patentable because they define additional features which are not taught or suggested by either the Chheda et al. or the Suzuki patents. For example, claims 9 and 10 respectively recite a mobile station and a base station, each including the radio transceiver of claim 1, which utilizes a quality estimator having an estimation algorithm which is a function of the velocity of the transceiver.

The Office Action broadly cites to Chheda et al. at Fig. 1; abstract; Col. 3, line 46 - Col. 4, line 17; Col. 4, lines 33 - 47; and Col. 5, lines 52 - 67 as allegedly disclosing these features. The Applicant respectfully disagrees and asserts that, as discussed above, Chheda et al. is completely silent regarding an estimation algorithm which is a function of the velocity

of the transceiver, much less having a mobile station or a base station comprising such a feature.

In summary, the Applicant respectfully submits that the Examiner has failed to establish a *prima facie* case of obviousness against claims 9 and 10. More specifically, the Examiner has not shown how or where the prior art teaches or suggests all the claimed limitations. As discussed above, even the combination of the references fails to teach all the features recited in claims 9 and 10. Accordingly, the Applicant respectfully requests the rejection of claims 9 and 10 be reversed.

2. With respect to all the rejected claims 1 - 6, 8 - 12, and 14, the Office Action has not established a *prima facie* case of obviousness because the Office Action fails to show an objective teaching or knowledge in the art that would have motivated a person of ordinary skill in the art to combine the Chheda et al. and Suzuki references in the manner suggested by the Office Action.

For a conclusion of obviousness based on a combination of references to be proper, there must be a reason, suggestion, or motivation to make the combination. *In re Rouffet* at 1456; *In re Fritch* at 1783; *In re Fine*, 5 USPQ2d 1596, 1598-1600 (CAFC 1988); MPEP § 2143.01. Specifically, the court has stated that to establish a *prima facie* case of obviousness the PTO must, among other things, "[show] some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." *In re Fine* at 1598. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Rouffet* at 1456-58; *In re Mills*, 16 USPQ2d 1430, 1432 (CAFC 1990); MPEP § 2143.01.

The U.S. Court of Appeals for the Federal Circuit has identified three possible sources for a motivation to combine references: the nature of the problem to be solved, the knowledge of persons of ordinary skill in the art, and the teachings of the prior art. *In re Rouffet* at 1458; *Pro-Mold and Tool Co. v. Great Lakes Plastics, Inc.*, 37 USPQ2d 1626, 1629-30 (CAFC 1996). In the present case, with respect to all the rejected claims 1 - 6, 8 - 12, and 14, the Office Action has relied on none of these reasons as a basis for combining Chheda et al. and Suzuki to allegedly render the claimed invention obvious. The Office Action admits that Chheda et al. does not disclose an estimation algorithm having a response speed and the

response speed of the algorithm being controlled in response to the measure of velocity of the transceiver. The Office Action then makes the unsupported statement that the method of using a response speed in an estimation algorithm is well known in the art, citing to the abstract of Suzuki for support. However, the abstract of Suzuki discloses no reference to a response speed or to an estimation algorithm. Since neither reference discloses the estimation algorithm recited in claim 1, there could not possibly be any suggestion in either reference why the references should be combined in the manner suggested in the Office Action to render independent claims 1 and 11 obvious. Moreover, even if the references were to be combined in the manner suggested by the Office Action, the result would merely be the power control switching method of Chheda, with the radiotelephone's speed being determined with the global positioning system of Suzuki.

B. Claims 1 - 6, 8 - 12, and 14 Are Not Properly Rejected Under 35 USC §102(a) As Being Anticipated By Published European Patent Application No. EP0847146 to Endo et al. In View of U.S. Patent No. 6,208,861 to Suzuki.

1. The Office Action has improperly relied on a combination of references to reject claims 1 - 6, 8 - 12, and 14 under 35 USC § 102.

Claims 1 - 6, 8 - 12, and 14 stand rejected under 35 USC § 102(a) as being unpatentable over Endo et al. and Suzuki. Under a rejection based on 35 USC § 102(a), the Examiner bears the burden of showing where every limitation in the patent claims is taught in a single prior art reference. *General Electric Co. v. Nintendo Co.*, 50 USPQ2d 1910, 1915, 1918-19 (CAFC 1999); MPEP § 706.2.

By admission in the Office Action, Endo et al. fails to teach the estimation algorithm recited in independent claims 1 and 11 of the present application. Endo et al. discloses a power control apparatus for controlling the radio signal transmission power based on the radio communication qualities between a mobile terminal and a base station (Endo et al. at Abstract; Col. 1, lines 3 – 11). A power control apparatus at the transmitting device adjusts the transmission power up or down based on error rate values received from the receiving device (Col. 13, lines 26 – 41). The power control apparatus can also adjust the transmission power in one channel direction between the mobile terminal and the base station taking communication quality of the other channel direction into account and thereby reducing

interference with other communication (Abstract; Col. 16, lines 17 - 36). The power control apparatus further has dual error rate threshold values, based on whether the mobile terminal is determined to be in a high-speed moving mode or a normal-speed moving mode (Col. 21, lines 50 - 55).

Claims 2 - 6 and 8 - 10 depend from claim 1 and include all the features of that claim plus additional features. Claims 12 and 14 depend from claim 11 and include all the features of that claim plus additional features. Therefore, for at least the reasons set forth above with respect to claims 1 and 11, it is submitted that claims 2 - 6, 8 - 10, 12, and 14 patentably distinguish over the Endo et al. document.

Further, as discussed above, Suzuki also fails to teach the estimation algorithm of independent claims 1 and 11. Since Endo et al. and Suzuki each fail to disclose each of the features recited in claims 1 and 11, it is respectfully submitted that neither reference can reasonably be said to anticipate Applicant's claimed invention.

In summary, the Applicant respectfully submits that the Examiner has failed to cite a single reference which anticipates each limitation recited in claims 1 - 6, 8 - 12, and 14, as required under 35 USC § 102. More specifically, the Examiner has not shown how or where Endo et al. and Suzuki each teaches or suggests all the claimed limitations. As discussed above, even the combination of the references fails to teach all the features recited in claims 1 - 6, 8 - 12, and 14. Accordingly, the Applicant respectfully requests the rejection of claims 1 - 6, 8 - 12, and 14 be reversed.

2. The Office Action has failed to show that the prior art of Endo et al. and Suzuki each separately anticipates the features recited in claims 1 - 6, 8 - 12, and 14 because the prior art of Endo et al. and Suzuki, whether taken alone or in combination, fails to teach or suggest all of the limitations of claims 1 - 6, 8 - 12, 14.

a. Claims 1 and 11 are Patentable Over the Combination of Endo et al. and Suzuki.

Claims 1 and 11 stand rejected under 35 USC § 102(a) as being unpatentable over Endo et al. and Suzuki.

The Endo et al. and Suzuki documents, whether taken alone or in combination, fail to

teach or suggest all of the elements of claims 1 and 11.

The Office Action admits that Endo et al. fails to teach the estimation algorithm recited in independent claims 1 and 11 of the present application. The Office Action then asserts, without support, that an estimation algorithm having a response speed and the response speed being controlled in response to the measure of velocity of the transceiver, as recited in independent claims 1 and 11, is well known in the art, as evidenced by the abstract of Suzuki. However, the abstract of Suzuki is completely silent regarding any estimation algorithm, much less the combined features as recited in claims 1 and 11. Accordingly, it cannot be reasonably be said that Endo et al. and Suzuki anticipate or even render obvious Applicant's invention as recited in claims 1 and 11.

In summary, the Applicant respectfully submits that the Examiner has failed to show how either Endo et al. or Suzuki anticipates or renders obvious each of the features recited in claims 1 and 11. More specifically, the Examiner has not shown how or where the prior art teaches or suggests all the claimed limitations. As discussed above, even the combination of the references fails to teach all the features recited in claims 1 and 11. Accordingly, the Applicant respectfully requests the rejection of claims 1 and 11 be reversed.

b. Claims 2 and 12 are Patentable Over the Combination of Endo et al. and Suzuki.

Claims 2 and 12 stand rejected under 35 USC § 102(a) as being anticipated by Endo et al. and Suzuki.

The combination of Endo et al. and Suzuki fails to disclose or suggest all of the elements of claims 2 and 12. Claims 2 and 12 depend respectively from claims 1 and 11 and include all the features of these independent claims and are therefore patentable for at least the same reasons as those set forth with respect to these base claims. Furthermore, claims 2 and 12 are separately patentable because they define additional features which are not taught or suggested by either the Endo et al. or the Suzuki patents. For example, claims 2 and 12 each specify that the estimated first measure of quality is the signal-to-interference ratio.

The Office Action cites to Endo et al. at Col. 13, line 45 - Col. 14, line 53 and Col. 21, line 19 - Col. 22, line 33 as allegedly disclosing this feature. The Applicant respectfully disagrees and points out that nothing in the cited portions of Endo et al. discloses a signal-to-interference ratio being used as a measure of quality of received radio signals. Instead, Endo

et al. discloses measuring the reception field strength of the received signal; and if the measured field strength is lower than expected, the Endo et al. system instructs a transmission power increase (Endo et al. at Col. 14, lines 39 - 46).

In summary, the Applicant respectfully submits that the Examiner has failed to show how either Endo et al. or Suzuki anticipates or renders obvious each of the features recited in claims 2 and 12. More specifically, the Examiner has not shown how or where the prior art teaches or suggests all the claimed limitations. As discussed above, even the combination of the references fails to teach all the features recited in claims 2 and 12. Accordingly, the Applicant respectfully requests the rejection of claims 2 and 12 be reversed.

c. Claims 3 - 6 are Patentable Over the Combination of Endo et al. and Suzuki.

Claims 3 - 6 stand rejected under 35 USC § 103(a) as being anticipated by Endo et al. and Suzuki.

The combination of Endo et al. and Suzuki fails to disclose or suggest all of the elements of claims 3 - 6. Claims 3 - 6 depend claim 1 and include all the features of this independent claim and are therefore patentable for at least the same reasons as those set forth with respect to this base claims. Furthermore, claims 3 - 6 are separately patentable because they define additional features which are not taught or suggested by either the Endo et al. or the Suzuki patents. For example, claims 5 and 6 respectively recite that the second measure of quality is a bit error rate or a frame error rate.

The Office Action again cites to Endo et al. at Col. 13, line 45 - Col. 14, line 53 and Col. 21, line 19 - Col. 22, line 33 as allegedly disclosing these features. The Applicant respectfully disagrees and asserts that the cited portions of Endo et al. are completely silent regarding a bit error rate or a frame error rate being a second measure of quality for a target value for a signal-to-interference ratio threshold value, as recited in claim 4, from which claims 5 and 6 both depend. While Endo et al. does disclose calculating a frame error rate at Col. 14, line 11, the Endo et al. system uses the frame error rate to alter the value of the expected reception field strength to a lower value prior to measuring the actual reception field strength against the expected reception field strength (Endo et al. at Col. 14, lines 10 - 38). In contrast, the present claimed invention frame error rate is utilized as a target threshold value for a quality estimator using a estimation algorithm having a response speed, the response

speed of the algorithm being controlled in response to the measure of velocity of the transceiver.

In summary, the Applicant respectfully submits that the Examiner has failed to show how either Endo et al. or Suzuki anticipates or renders obvious each of the features recited in claims 3 - 6. More specifically, the Examiner has not shown how or where the prior art teaches or suggests all the claimed limitations. As discussed above, even the combination of the references fails to teach all the features recited in claims 3 - 6. Accordingly, the Applicant respectfully requests the rejection of claims 3 - 6 be reversed.

d. Claims 8 and 14 are Patentable Over the Combination of Endo et al. and Suzuki.

Claims 8 and 14 stand rejected under 35 USC § 103(a) as being anticipated by Endo et al. and Suzuki.

The combination of Endo et al. and Suzuki fails to disclose or suggest all of the elements of claims 8 and 14. Claims 8 and 14 depend respectively from claims 1 and 11 and include all the features of these independent claims and are therefore patentable for at least the same reasons as those set forth with respect to these base claims. Furthermore, claims 8 and 14 are separately patentable because they define additional features which are not taught or suggested by either the Endo et al. or the Suzuki patents. For example, claims 8 and 14 each specify that response speed of the estimation algorithm is controlled such that a first higher response speed is used in the event of a low measure of velocity of the transceiver, and a second lower response speed is used in the event of a high measure of velocity of the transceiver. The Office Action cites to Endo et al. at Col. 13, line 45 - Col. 14, line 53 and Col. 21, line 19 - Col. 22, line 33 and to Suzuki at its abstract as allegedly disclosing "a first higher response speed is used for a low measure speed of the transceiver and a second lower speed is used for a high measured velocity of the transceiver."

The Applicant respectfully asserts that the Office Action's reliance on this portion of the Endo et al. disclosure is misplaced. Nothing in the cited portions of Endo et al. discloses that an estimation algorithm is controlled based on a measure of the velocity of the transceiver. In fact, Endo et al. is completely silent regarding the use of multiple estimation algorithms. Instead, the power control apparatus of Endo et al. accommodates high-speed and normal-speed terminal movement with two different, predetermined threshold error

values for triggering a power transmission changed based on the velocity of the mobile terminal (Col. 21, line 42 - Col. 22, line 20). Similarly, the Office Action's reliance on the abstract of Suzuki to teach the features of claims 8 and 14 is misplaced. The Suzuki abstract is silent regarding the response speed of an algorithm being controlled by the measure of velocity of the transceiver. Further, a complete reading of the Suzuki patent discloses no estimation algorithm at all, much less an estimation algorithm having a response speed controlled by the measure of velocity of the transceiver.

In summary, the Applicant respectfully submits that the Examiner has failed to show how either Endo et al. or Suzuki anticipates or renders obvious each of the features recited in claims 8 and 14. More specifically, the Examiner has not shown how or where the prior art teaches or suggests all the claimed limitations. As discussed above, even the combination of the references fails to teach all the features recited in claims 8 and 14. Accordingly, the Applicant respectfully requests the rejection of claims 8 and 14 be reversed.

e Claims 9 and 10 are Patentable Over the Combination of Endo et al. and Suzuki.

Claims 9 and 10 stand rejected under 35 USC § 103(a) as being anticipated by Endo et al. and Suzuki.

The combination of Endo et al. and Suzuki fails to disclose or suggest all of the elements of claims 9 and 10. Claims 9 and 10 depend claim 1 and include all the features of this independent claim and are therefore patentable for at least the same reasons as those set forth with respect to this base claims. Furthermore, claims 9 and 10 are separately patentable because they define additional features which are not taught or suggested by either the Endo et al. or the Suzuki patents. For example, claims 9 and 10 respectively recite a mobile station and a base station, each including the radio transceiver of claim 1, which utilizes a quality estimator having an estimation algorithm which is a function of the velocity of the transceiver.

The Office Action broadly cites to Endo et al. at Figs. 1, 4, and 9; Col. 13, line 45 - Col. 14, line 53; Col. 21, line 19 - Col. 22, line 33 as allegedly disclosing these features. The Applicant respectfully disagrees and asserts that, as discussed above, Endo et al. is completely silent regarding an estimation algorithm which is a function of the velocity of the transceiver, much less having a mobile station or a base station comprising such a feature.

In summary, the Applicant respectfully submits that the Examiner has failed to show how either Endo et al. or Suzuki anticipates or renders obvious each of the features recited in claims 9 and 10. More specifically, the Examiner has not shown how or where the prior art teaches or suggests all the claimed limitations. As discussed above, even the combination of the references fails to teach all the features recited in claims 9 and 10. Accordingly, the Applicant respectfully requests the rejection of claims 9 and 10 be reversed.

3. With respect to all the rejected claims 1 - 6, 8 - 12, and 14, the Office Action has failed to show an objective teaching or knowledge in the art that would have motivated a person of ordinary skill in the art to combine the Endo et al. and Suzuki references in the manner suggested by the Office Action.

The U.S. Court of Appeals for the Federal Circuit has identified three possible sources for a motivation to combine references to allegedly teach all the features of a claimed invention: the nature of the problem to be solved, the knowledge of persons of ordinary skill in the art, and the teachings of the prior art. *In re Rouffet* at 1458; *Pro-Mold and Tool Co. v. Great Lakes Plastics, Inc.*, 37 USPQ2d 1626, 1629-30 (CAFC 1996). In the present case, with respect to all the rejected claims 1 - 6, 8 - 12, and 14, the Office Action has relied on none of these reasons as a basis for combining Endo et al. and Suzuki to allegedly anticipate all the features of the claimed invention. The Office Action admits that Endo et al. does not disclose an estimation algorithm having a response speed and the response speed of the algorithm being controlled in response to the measure of velocity of the transceiver. The Office Action then makes the unsupported statement that the method of using a response speed in an estimation algorithm is well known in the art, citing to the abstract of Suzuki for support. However, the abstract of Suzuki discloses no reference to a response speed or to an estimation algorithm. Since neither reference discloses the estimation algorithm recited in claim 1, there could not possibly be any suggestion in either reference why the references should be combined in the manner suggested in the Office Action to anticipate independent claims 1 and 11.


As discussed above, for a claim to be rejected under 35 USC § 102 as being anticipated by a reference, the reference must teach each and every element of the claim. Accordingly, the rejection of claims 1 - 6, 8 - 12, and 14 under 35 USC § 102(a) as being anticipated by Endo et al. in view of Suzuki is improper because Endo or Suzuki must stand

alone in teaching all of the claimed features (emphasis added). See MPEP § 706.02. While additional references are permitted under 35 USC § 102 for the very limited purpose of supporting the primary reference, two references cannot be combined under 35 USC § 102 to render the claimed invention anticipated by being obvious in view of the two references, as asserted in the Office Action. See MPEP § 2131.01. Accordingly, for this additional reason, the rejection of claims 1 - 6, 8 - 12, and 14 under 35 USC § 102 in view of Endo et al. and Suzuki is improper and should be withdrawn.

Conclusion

In summary, the Applicant respectfully submits that the Examiner has failed to establish a *prima facie* case of obviousness against claims 1 - 6, 8 - 12, and 14. Further, the Applicant respectfully submits that the Examiner has failed to show where either reference cited under 35 USC § 102(a) anticipates each of the features recited in claims 1 - 6, 8 - 12, and 14. More specifically, the Examiner has not shown how or where the prior art teaches or suggests all the claimed limitations. As discussed above, even the combination of the references fails to teach all the features recited in claims 1 - 6, 8 - 12, and 14. Furthermore, the Examiner has not shown the requisite teaching or suggestion that would motivate the skilled artisan to combine the references to teach every element recited in claims 1 - 6, 8 - 12, and 14. Accordingly, the Applicant respectfully requests the rejection of claims 1 - 6, 8 - 12, and 14 be reversed.

Respectfully submitted,
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APPENDIX

**All Pending Claims, Including The Claims Under Appeal,
Namely Claims 1 - 6, 8 - 12, and 14**

1. (Previously Presented) A radio transceiver, comprising:
a receiver, for receiving radio signals;
a quality estimator, for estimating a first measure of quality of received radio signals, the quality estimator using an estimation algorithm having a response speed; and
a speed estimator, for obtaining a measure of relative velocity of the transceiver,
wherein the measure of relative velocity is used as an input to the quality estimator, and the response speed of the estimation algorithm is controlled in response to the measure of velocity of the transceiver.
2. (Original) A radio transceiver as claimed in claim 1, wherein the estimated first measure of quality is the signal-to-interference ratio.
3. (Original) A radio transceiver as claimed in claim 2, further comprising:
a comparison circuit, for comparing the estimated signal-to-interference ratio with a threshold value thereof; and
a control circuit, for transmitting a power control signal to a further transceiver, based on the result of said comparison.
4. (Original) A radio transceiver as claimed in claim 3, wherein the signal-to-interference ratio threshold value is set to achieve a target value of a second measure of quality.
5. (Original) A radio transceiver as claimed in claim 4, wherein the second measure of quality is a bit error rate.
6. (Original) A radio transceiver as claimed in claim 4, wherein the second measure of quality is a frame error rate.

7. (Canceled by Amendment filed November 20, 2003)

8. (Previously Presented) A radio transceiver as claimed in claim 1, wherein the response speed of the estimation algorithm is controlled such that a first higher response speed is used in the event of a low measure of velocity of the transceiver, and a second lower response speed is used in the event of a high measure of velocity of the transceiver.

9. (Previously Presented) A mobile station, including a radio transceiver as claimed in claim 1.

10. (Previously Presented) A base station, including a radio transceiver as claimed in claim 1.

11. (Previously Presented) A method of estimating quality of received radio signals in a transceiver, comprising:

obtaining a measure of relative velocity of the transceiver; and

estimating the quality using an estimation algorithm, including using the measure of relative velocity as an input to the estimation algorithm, wherein the quality estimation algorithm has a response speed, and the response speed of the estimation algorithm is controlled in response to the measure of relative velocity of the transceiver.

12. (Original) A method as claimed in claim 11, wherein the estimated measure of quality is the signal-to-interference ratio.

13. (Canceled by Amendment filed November 20, 2003)

14. (Previously Presented) A method as claimed in claim 11, wherein the response speed of the estimation algorithm is controlled such that a first higher response speed is used in the event of a low measure of velocity of the transceiver, and a second lower response speed is used in the event of a high measure of velocity of the transceiver.

15. (Canceled by Amendment filed November 20, 2003)

16. (Canceled by Amendment filed November 20, 2003)
17. (Canceled by Amendment filed November 20, 2003)
18. (Canceled by Amendment filed November 20, 2003)

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